UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,570	05/31/2001	Sang Hoon Oh	3593/7	3488

29858 7590 05/30/2003

BROWN, RAYSMAN, MILLSTEIN, FELDER & STEINER LLP
900 THIRD AVENUE
NEW YORK, NY 10022

EXAMINER	
MILORD, MARCEAU	
ART UNIT	PAPER NUMBER
2682	12

DATE MAILED: 05/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/871,570	OH ET AL.	
	Examiner	Art Unit	
	Marceau Milord	2682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer, Jr et al. (US Patent No 5588041) in view of Li (US Patent No 5646990) and Takahashi et al (US Patent No 6266410 B1).

Regarding claims 1-18, Meyer, Jr et al discloses a portable (100 of figs. 1-2) hands-free adapter device (207 of fig. 2) for use with a cellular telephone (fig. 2), the device comprising: a loudspeaker electrically coupleable to the output of a cellular telephone (fig. 2); a microphone (105 of fig. 1 or 121 of fig. 3) electrically coupleable to the input of a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64); a housing (101 of fig. 1) containing the loudspeaker and microphone (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66), the housing (101 of fig. 1) being approximately pocket-sized (col. col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the feature of means for reducing internal howling within the housing.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a

speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claim 19, Meyer, Jr et al discloses a portable (100 of figs. 1-2) hands-free adapter device for use with a cellular telephone (fig. 2), the device comprising: a loudspeaker electrically coupleable to the output of a cellular telephone (fig. 2); a microphone (105 of fig. 1 or 121 of fig. 3) electrically coupleable to the input of a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64); a housing (101 of fig. 1) containing the loudspeaker and microphone (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66), the housing (101 of fig. 1) being approximately pocket-sized (col. col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the features of an attenuation circuitry coupled to the loudspeaker and microphone; and sound insulation positioned between the loudspeaker and microphone, wherein the attenuation circuitry and sound insulation reduce howling sufficiently to enable use of the device as a speakerphone.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claims 20-21, Meyer, Jr et al discloses a portable (100 of figs. 1-2) hands-free adapter device (207 of fig. 2) for use with a cellular telephone (fig. 2), the device comprising: a loudspeaker electrically coupleable to the output of a cellular telephone (fig. 2); a microphone (105 of fig. 1 or 121 of fig. 3) electrically coupleable to the input of a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64); a housing (101 of fig. 1) containing the loudspeaker and microphone (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66), the housing (101 of fig. 1) being approximately pocket-sized (col. col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the features of a means for insulating sound positioned within the housing between the loudspeaker and microphone; wherein the outlet of the loudspeaker faces in a first direction substantially normal to the plane of the housing and the outlet of the microphone faces in a second direction substantially normal to the plane of the housing means for reducing internal howling within the housing.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claim 22, Meyer, Jr et al discloses a portable (100 of figs. 1-2) hands-free adapter device (207 of fig. 2) for use with a cellular telephone (fig. 2), the device comprising: a loudspeaker electrically coupleable to the output of a cellular telephone (fig. 2); a microphone (105 of fig. 1 or 121 of fig. 3) electrically coupleable to the input of a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64); a housing (101 of fig. 1) containing the loudspeaker and microphone (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66), the housing (101 of fig. 1) being approximately pocket-sized (col. col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the feature of a means for insulating sound positioned within the housing between the loudspeaker and microphone.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path.

In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claim 23, Meyer, Jr et al discloses a portable (100 of figs. 1-2) hands-free adapter device (207 of fig. 2) for use with a cellular telephone (fig. 2), the device comprising: a loudspeaker electrically coupleable to the output of a cellular telephone (fig. 2); a microphone

(105 of fig. 1 or 121 of fig. 3) electrically coupleable to the input of a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64); a housing (101 of fig. 1) containing the loudspeaker and microphone (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66), the housing (101 of fig. 1) being approximately pocket-sized (col. col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the feature of the outlet of the loudspeaker faces in a first direction substantially normal to the plane of the housing and the outlet of the microphone faces in a second direction substantially normal to the plane of the housing.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise

canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claims 24-34, Meyer, Jr et al discloses a method for making a portable speakerphone device (100 of figs. 1-2) adaptable for use with a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64), the method comprising: providing pocket sized housing means (101 of fig. 1) defining an exterior of the device (col. 4, lines 7-64; col. 7, line 36- col. 8, line 59) disposing loudspeaker means within the housing means (101 of fig. 1); disposing microphone means (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66) within the housing means (col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the feature of a means for reducing internal howling within the housing.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a

speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Regarding claim 35, Meyer, Jr et al discloses a method for making a portable speakerphone device (100 of figs. 1-2) adaptable for use with a cellular telephone (figs. 2-3; col. 5, line 25- col. 6, line 64), the method comprising: providing pocket sized housing means (101 of fig.1) defining an exterior of the device (col. 4, lines 7-64; col. 7, line 36- col. 8, line 59); disposing loudspeaker means within the housing means (101 of fig. 1) disposing microphone means (105 of fig. 1 or 121 of fig. 3; col. 2, line 21- col. 3, line 66); within the housing means (101 of fig. 1); providing attenuation circuitry means (col. 7, line 36- col. 8, line 65); and providing sound insulation means positioned between the loudspeaker means and the microphone means (col. 9, line 1- col. 10, line 52).

However, Meyer Jr et al does not specifically disclose the feature of the attenuation circuitry means and the insulation means reduce howling sufficiently to enable use of the device as a telephone speakerphone, and wherein the outlet of the loudspeaker faces in the same direction as the outlet of the microphone, and wherein a line extending between the outlet of the loudspeaker and the outlet of the microphone would form a right angle with a line extending in the direction that the outlet of the loudspeaker and the outlet of the microphone face.

On the other hand, Li, from the same field of endeavor, discloses a cost-effective anti-howling system and method, which enables fast detection of the true double-talk and eliminates undesirable howling attributable to sudden changes in the acoustic echo path between a speakerphone microphone and loudspeaker during speakerphone conversations. It is obvious that the coupling of the loudspeaker 134 to the microphone 110 defines an acoustic path. In addition, the controller 242 receives detection information from the transmit and receive detectors 224 and 252, and can determine the correct communication mode, i.e., transmit mode, receive mode; and

double-talk mode, and is able to gauge the proper performance of the echo cancellers AEC 222 and LEC 254 (figs. 1-3; col. 3, line 63- col. 4, line 34; col. 5, line 10- col. 6, line 67; col. 7, lines 1- 46).

Takahashi et al discloses a speakerphone that can obtain an output in which an acoustic coupling component between a loudspeaker and a speech microphone has been removed. The speech microphone and the noise canceling microphone are installed within the housing, sounds reach the speech microphone through a sound input hole formed in the housing, and the noise canceling microphone is covered up tight in the housing (col. 1, line 49- col. 2, line 40; col. 3, line 36- col. 4, line 65; col. 6, line 22- col. 7, line 29; col. 9, line 22- col. 10, line 42).

It is considered that the echo cancellers are used in order to reduce negative effects of howling or feedback since the speakerphone assembly may also include a system controller, it means that this device can reduce the sensitivity of the microphone or volume of the speaker. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the speakerphone of Takahashi to the modified system of Li and Meyer for the purpose of providing a compact speakerphone device which can be adapted to a cellular telephone, and which device can be included sound insulation material disposed around the microphone in order to reduce howling.

Response to Arguments

3. Applicant's arguments with respect to claims 1-35 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-305-9508 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

M. Milord

MARCEAU MILORD

Marceau Milord
Examiner
Art Unit 2682

May 24, 2003